Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (previously presented) An intravascular guidewire, comprising:

an elongate core wire comprising a metal; and

a polymer jacket comprising a shape memory polymer attached to and surrounding a portion of the core wire such that a substantial portion of the polymer jacket is in contact with the core wire, the polymer jacket being more stiff than the portion of the core wire which it surrounds;

wherein the shape memory polymer is one from a subset of polymers which are characterized by their responsiveness to heating at or above a glass transition temperature of the shape memory polymer in order to independently transform the shape memory polymer between a first shape and a second shape.

2. (original) An intravascular guidewire as in claim 1, wherein the metal comprises a stainless steel metal.

3. (original) An intravascular guidewire as in claim 1, wherein the metal comprises a super elastic metal.

4. (original) An intravascular guidewire as in claim 3, wherein the super elastic metal comprises a nickel titanium alloy.

5. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polyurethane.

6. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polynorbornene or copolymers or blends thereof.

7. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polycaprolactone or (oligo)caprolactone copolymer.

8. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory polymethylmethacylate.

9. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PLLA copolymer.

10. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PLLA PGA copolymer.

11. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PL/D LA copolymer.

12. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory PMMA copolymer.

13. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory cross-linked polyethylene.

14. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory cross-linked polyisoprene.

15. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises shape memory styrene-butadiene copolymer.

16. (original) An intravascular guidewire as in claim 1, wherein the shape memory polymer comprises a photocrosslinkable polymer.

17-19. (cancelled)

20. (previously presented) An intravascular guidewire, comprising:

an elongate core wire comprising a metal having an elastic limit; and

a polymer jacket attached to and surrounding a distal tip portion of the core wire such that a substantial portion of the polymer jacket is in contact with the core wire, the polymer jacket comprising a shape memory polymer having an elastic limit, the polymer jacket being more stiff than the distal tip portion of the core wire which it surrounds such that when the tip is deformed into a shape within the elastic limit of the metal and beyond the elastic limit of the polymer, the tip substantially retains the shape;

wherein the shape memory polymer is one from a subset of polymers which are characterized by their responsiveness to heating at or above a glass transition temperature of the shape memory polymer in order to independently transform the shape memory polymer between a first shape and a second shape.

21. (previously presented) An intravascular guidewire as in claim 20, wherein the metal comprises a stainless steel metal.

22. (previously presented) An intravascular guidewire as in claim 20, wherein the metal comprises a super elastic metal.

23. (previously presented) An intravascular guidewire as in claim 22, wherein the super elastic metal comprises a nickel titanium alloy.

24. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polyurethane.

25. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polynorbornene or copolymers or blends thereof.

26. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polycaprolactone or (oligo)caprolactone copolymer.

27. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory polymethylmethacylate.

28. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PLLA copolymer.

29. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PLLA PGA copolymer.

30. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PL/D LA copolymer.

31. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory PMMA copolymer.

32. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory cross-linked polyethylene.

33. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory cross-linked polyisoprene.

34. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises shape memory styrene-butadiene copolymer.

35. (previously presented) An intravascular guidewire as in claim 20, wherein the shape memory polymer comprises a photocrosslinkable polymer.

36. (previously presented) An intravascular guidewire, comprising:

an metallic core wire having a tapered portion and a distal end; and

a polymer jacket attached to and surrounding a portion of the core wire including the tapered portion and the distal end of the core wire such that a substantial portion of the polymer

jacket is in contact with the core wire, the polymer jacket being more stiff than the portion of the core wire which it surrounds;

wherein the polymer jacket comprises a shape memory polymer so characterized by its ability to independently transform to an alternate shape as a result of being subjected to heating at or above a glass transition temperature of the shape memory polymer.

37. (previously presented) The intravascular guidewire of claim 1, wherein the portion of the core wire encased by the polymer jacket includes a tapered portion.

38. (previously presented) The intravascular guidewire of claim 20, wherein the distal tip portion of the core wire includes a tapered portion.

39. (previously presented) An intravascular guidewire, comprising:

a metallic core wire having an outer surface and a distal end; and

a polymer jacket attached to and surrounding a portion of the core wire such that a substantial portion of the polymer jacket is in contact with the outer surface of the core wire, the polymer jacket being more stiff than the portion of the core wire which it surrounds;

wherein the polymer jacket comprises a shape memory polymer so characterized by its ability to independently transform to an alternate shape as a result of being subjected to heating at or above a glass transition temperature of the shape memory polymer.

40. (previously presented) The intravascular guidewire of claim 39, wherein the portion of the core wire surrounded by the polymer jacket includes a tapered portion.

41. (previously presented) The intravascular guidewire of claim 39, wherein the portion of the core wire surrounded by the polymer jacket includes the distal end of the core wire.

42. (previously presented) The intravascular guidewire of claim 39, wherein the core wire comprises a stainless steel metal.

43. (previously presented) The intravascular guidewire of claim 39, wherein the core wire comprises a super elastic metal.

44. (previously presented) The intravascular guidewire of claim 43, wherein the super elastic metal comprises a nickel titanium alloy.

45. (previously presented) An intravascular guidewire, comprising:

an elongate core wire including a proximal portion and a distal portion, wherein at least the distal portion is formed of a super elastic metal having an elastic limit; and

a polymer jacket attached to and surrounding at least the distal portion of the elongate core wire formed of a super elastic metal, the polymer jacket comprising a shape memory polymer having an elastic limit, the polymer jacket being more stiff than the distal portion of the core wire which it surrounds such that when the distal portion of the core wire and the polymer jacket are deformed into a curved shape within the elastic limit of the super elastic metal and beyond the elastic limit of the shape memory polymer, the distal portion of the core wire and the polymer jacket substantially retain the curved shape;

wherein the shape memory polymer is one from a subset of polymers which are characterized by their responsiveness to heating at or above a glass transition temperature of the shape memory polymer in order to independently transform the shape memory polymer between a first shape and a second shape.